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Recombinant Attenuated Salmonella Vaccine to Prevent *Clostridium perfringens* Infections and Necrotic Enteritis in Poultry

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Inventors

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Invention Description

Necrotic enteritis poses a major threat to the current objective of 'antibiotic-free' poultry farming. It causes economic loss due to high mortality in broilers and, most commonly, it causes a chronic sub-clinical intestinal mucosal damage, leading to reduced feed efficiency and growth reduction. There is no vaccine in the market for necrotic enteritis. Necrotic enteritis can be controlled by the routine application of antibiotics at sub-therapeutic levels in the feed, a practice currently frowned upon and soon likely to be banned by federal regulations. The withdrawal of in-feed antibiotics, however, aggravated *C. perfringens* infection and necrotic enteritis. A cost effective vaccine is, therefore, highly desirable.

Professor Roy Curtiss and colleagues from the Biodesign Institute at Arizona State University have developed a recombinant attenuated *Salmonella* vaccine administered by spray or in water or food capable of preventing chicken infection by a *Clostridium perfringens* leading to necrotic enteritis.

Potential Applications

- Cost effective vaccination against *Clostridium perfringens*
  - Avoids antibiotic administration
  - Prevents bacterial outbreaks from *Clostridium perfringens.*

Benefits and Advantages

- Robust vaccine
- Easy to administer
- Easy to be transported
- Avoids antibiotic administration
- Prevents disease outbreaks

Intellectual Property Status:

PCT # 61/106,367

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